

Serial No.: 10/790,986  
Docket No.: 09792909-5828  
Amendment dated November 3, 2008  
Reply to the Office Action of July 24, 2008

## **REMARKS**

### **A. Introduction**

Claims 1-4 and 9-20 were pending and under consideration.

In the Office Action of July 24, 2008 ("the Office Action"), claims 1-4 and 9-20 were rejected as obvious. In response, the rejections are traversed.

In view of the following remarks, reconsideration and allowance of all the pending claims are requested.

### **B. Rejection under 35 USC §103**

Claims 1-4, 9-13, and 17-20 were rejected under 35 U.S.C. §103 as being obvious in view of U.S. Patent No. 4,272,648 to Agrawal and U.S. Patent Publication No. 2001/0025292 to Denk. The rejection is traversed for at least the following reasons.

First, Agrawal does not disclose or suggest all of the elements recited by independent claim 1 as alleged by the Examiner. Regarding the language "difference calculation means for calculating the difference between the result of the operation performed by the operation means and the high-order part extracted by the high-order part extraction means," the Examiner merely points to "component 64 in Figure 3." See the Office Action, Page 3. In addition to the fact that Figure 3 does not sufficiently convey the manner in which element 64 operates to provide legitimate grounds for rejecting the recited language, Agrawal only describes component 64 as "a summing network 64 where  $Z_n$  of  $N$  bits are added to the output of the summer 62...[and] operates to provide the signal  $e(n)$  which is the instantaneous error introduced by circuit 63 and indicative of the least significant bits  $M$ ." See Agrawal, Col. 7, Line 66-Col. 8, Line 5. Because component 64 merely "sums" or adds  $Z_n$  of  $N$  bits to the output of 62, component 64 cannot be used for "calculating the difference between the result of the operation performed by the operation means and the high-order part extracted by the high-order part extraction means," as recited in independent claim 1.

Further, in attempt to match the language "feedback means for adding, to a next input

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digital signal, the difference value calculated by the difference calculation means or a value obtained by performing a predetermined operation on the difference value calculated by the difference value calculation means,” the Examiner merely points to “feedback as seen in Figure 3 wherein the error is feedback [sic] to the adder 62 through delay element 65 to the next sample.” See the Office Action, Page 3. However, in addition to the fact that Figure 3 does not sufficiently convey the manner in which element 65 operates to provide legitimate grounds for rejecting the recited language, Agrawal only describes component 65 as “a register for transferring the bits to be added to summer 62 at the proper level and time” See Agrawal, Col. 8, Lines 41-43. Because component 65 merely transfers bits, component 65 cannot be used for “feedback means for adding, to a next input digital signal, the difference value calculated by the difference calculation means or a value obtained by performing a predetermined operation on the difference value calculated by the difference value calculation means,” as recited in independent claim 1.

The limitations of claim 1 not present in Agrawal are also not taught or suggested by Denk. The Examiner relies on Denk only to allege that it teaches “rounding a value to a digit of an order which is higher than the lowest order digit of the value.” See Office Action, page 3. However, Denk also does not teach or suggest the features which are lacking in Agrawal, including, “difference calculation means for calculating the difference between the result of the operation performed by the operation means and the high-order part extracted by the high-order part extraction means,” and “feedback means for adding, to a next input digital signal, the difference value calculated by the difference calculation means or a value obtained by performing a predetermined operation on the difference value calculated by the difference value calculation means,” as recited in independent claim 1. Consequently, claim 1 is allowable over Agrawal and Denk, separately or in combination.

Second, Denk teaches away from Agrawal and is not combinable with Agrawal without destroying the purpose of Agrawal. Agrawal’s purpose is achieved by discarding a part of a number as opposed to rounding a number. Discarding and rounding are not analogous processes that can be substituted for each other at will. A rounded number is defined as a

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number having about the same value as the number you start with, but it is less exact, e.g., 11.3572 *rounded* up or off to two decimal places becomes 11.36. Inversely, *discarding* does not affect the remaining portion of the number, i.e., the remaining number is not *rounded*. These different processes yield completely different results and the Examiner's attempt to merely substitute one for the other destroys the intended purpose of Agrawal.

In particular, Agrawal provides "[t]he output from the adder 62 is applied to a word length reduction circuit 63...[that] operates to provide the output signal  $Z_n$  by simply discarding the M least significant bits." See Agrawal, Col. 7, Lns. 12-20 (emphasis added). Agrawal provides a detailed description regarding how the least significant bits are discarded and how the least significant bits are "employed via a feedback loop and are added to the next word product, which is then used to provide a next output signal." See Abstract and Col. 7 Ln. 65-Col. 8 Ln 65.

If one were to employ the Examiner's logic and substitute the discarding process of Agrawal with the rounding process of Denk, Agrawal would be destroyed because the entire purpose of Agrawal is to employ the discarded bits into a subsequent output signal for the benefit of assuring "that each output signal is a close approximation to the input signal as gain controlled by the desired gain factor" and thereby providing "extremely accurate gain control according to the number of bits in a word." *Id.* Denk's rounded number has no discarded bits and has the effect of reducing precision, which is the opposite of providing extreme accuracy. Thus, Denk teaches away from Agrawal by requiring an incompatible approach, and therefore one of ordinary skill in the art would not have been motivated to combine these references, and no expectation of success in combining these references exist. *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984) (References are not properly combinable or modifiable if their intended function is destroyed).

Third, even if Denk could be combined with Agrawal without destroying Agrawal, the alleged motivation to combine the two is flawed. The Examiner relies on Denk paragraph 9. However that paragraph is the "Summary of the Invention," which is "[a] brief summary of the invention indicating its nature and substance." See MPEP 608.01(d) Brief Summary of the

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Invention. Denk's Summary of the Invention fails to discuss the element relied on by the Examiner. Consequently, it is unreasonable to conclude that Denk's Summary of the Invention would motivate one to extract just the single element of Denk for incorporation into Agrawal. Thus, the motivation to combine Agrawal and Denk is flawed.

Accordingly, for at least the reasons that (1) Agrawal does not disclose or suggest the elements alleged by the Examiner and Denk does not remedy the deficiencies of Agrawal; (2) Denk teaches away from Agrawal and is not combinable with Agrawal without destroying the purpose of Agrawal; and (3) there is no motivation to combine Agrawal and Denk, Applicant respectfully submits that independent claim 1 is allowable over Agrawal and Denk, either individually or combined, and withdrawal of this rejection and allowance of this claim are respectfully solicited. Likewise, claims 2-4 and 16-20, which depend from independent claim 1, and thus include all of the limitations of independent claim 1, are also patentable over Agrawal and Denk.

Regarding independent claims 9 and 13, the Examiner attempts to reject these claims by merely referencing the grounds for rejecting independent claim 1. See the Office Action, pages 4 and 5. However, because the grounds for rejecting independent claim 1 are flawed, as pointed out above, the grounds cannot be used for rejecting independent claims 9 and 13. As such, withdrawal of these rejections and allowance of these claims are respectfully requested.

Further, independent claims 9 recites limitations that are not recited by independent claim 1. Because the Examiner simply references the rejection of claim 1, it is clear that these limitations have gone unexamined. For instance, independent claim 9 recites, *inter alia*, "A storage medium readable by a signal processing apparatus and storing computer-readable codes to manage\_the signal processing apparatus for receiving digital signals that are continuously related and input sequentially, performing a predetermined operation on each of sequentially input digital signals, and outputting a result of the operation," which is not recited by independent claim 1. Applicant respectfully solicits examination of all the recited limitations.

Accordingly, for at least the reasons above, Applicant respectfully submits that

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independent claims 9 and 13 are allowable over Agrawal and Denk, either individually or combined, and withdrawal of these rejections and allowance of these claims are respectfully solicited. Likewise, claims 10-12 and 14-15, which respectively depend from independent claims 9 and 13, and thus include all of the limitations of independent claims 9 and 13, are also patentable over Agrawal and Denk.

**C. Conclusion**

It is respectfully submitted that a full and complete response has been made to the outstanding Office Action and, as such, there being no other objections or rejections, this application is in condition for allowance, and a notice to this effect is earnestly solicited.

If any further fees are required in connection with the filing of this amendment, please charge the same to our Deposit Account No. 19-3140.

Respectfully submitted,  
SONNENSCHN NATH & ROSENTHAL LLP

By           /Adam C. Rehm/            
Adam C. Rehm, Reg. No. 54,797  
P.O. Box 061080  
Wacker Drive Station, Sears Tower  
Chicago, IL 60606-1080  
816-460-2542 (telephone)  
816-531-7545 (facsimile)

ATTORNEYS FOR APPLICANT